STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF CONSIDERING:

CASE NO. 13480

APPLICATION OF

Gandy Marley, Inc.

5/9/05 DNN

PRE-HEARING STATEMENT

This prehearing statement is submitted by New Mexico Citizens for Clean Air & Water, Inc. as required by the Oil Conservation Division.

APPEARANCES OF PARTIES

APPLICANT	ATTORNEY
name, address, phone and contact person	

OPPOSITION OR OTHER PARTY	ATTORNEY
New Mexico Citizens for Clean	*pro se*
Air & Water, Inc.	
2708 B. Walnut St., Los Alamos, New Mexico 87544-2050.	
Donald A. Neeper 505-662-4592	
name, address, phone and contact person	

Pre-hearing Statement
NMOCD Case No. 13480
Page 2

STATEMENT OF CASE

APPLICANT

(Please make a concise statement of what is being sought with this application and the reasons therefore.)

OPPOSITION OR OTHER PARTY

(Please make a concise statement of the basis for opposing this application or otherwise state the position of the party filing this statement.)

Unlike light petroleum products, salt is not degraded by biological processes. In an arid climate, the repeated application of saline wastes to the land will cause a buildup of both sodium and chloride in the soil. This makes the soil increasingly unable to support plant life. An accepted measure of the potential impact on plant life is the sodium absorption ratio. Therefore, the acceptance of saline wastes by a landfarm should be restricted according to the sodium absorption ratio measured periodically at several depths below each disposal unit.

PROPOSED EVIDENCE

APPLICANT

WITNESSES (Name and expertise)	EST. TIME	EXHIBITS

OPPOSITION

WITNESSES (Name and expertise)	EST. TIME	EXHIBITS
Donald A. Neeper, Ph.D. Transport of contaminants and effects of sodium in the soil.	20 minutes.	Exhibit will be written testimony regarding sodium absorption ratio and remediation methods for salt spills, and the relevance of this information to landfarm operation.

PROCEDURAL MATTERS
(Please identify any procedural matters which need to be resolved prior to the hearing)

The witness will appear *pro se*, but will bear written authorization to speak as a technical representative of NMCCA&W, Inc.

This testimony will apply to Case 13480 and equally to Case 13481, in which Artesia Aeration, LLC is the applicant. The witness will request that this testimony be included in the record of Case 13481 without repeating the testimony while Case 13481 is being heard.

Donald A. Neeper

Signature

New Mexico Citizens for Clean Air and Water

113 Monte Rey Drive North
Los Alamos, NM 87544
(505) 672-9792; FAX (505) 672-0831
May 13, 2005

To Whom It May Concern:

By the consensus of its board of directors, on May 11, 2005, the New Mexico Citizens for Clean Air & Water, Inc. authorized Dr. Donald A. Neeper to speak on behalf of this organization at hearings before the Oil Conservation Division and hearings before the Oil Conservation Commission throughout the calendar year 2005.

Very truly yours,

John R. Bartlit

John R. Bartlit, Chairman

jrb:nb

cc: Don Neeper, NMCCA&W

WVJ 5/25/05

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

CASE NO. 13480: APPLICATION OF GANDY MARLEY, INC. TO MODIFY THEIR EXISTING NMOCD RULE 711 PERMIT NO. NM-01-019 SO THAT THEY MAY ACCEPT SALT-CONTAMINATED OILFIELD WASTES.

2005 MAY 13 AM 10 25

PRE-HEARING STATEMENT

This entry of appearance and pre-hearing statement is submitted by the Oil Conservation Division.

APPEARANCES

APPLICANT
Gandy Marley, Inc.

APPLICANT'S ATTORNEY
Pete V. Domenici, Jr.
Domenici Law Firm, P.C.
6100 Seagull Street NE, Suite 205
Albuquerque, NM 87109
(505) 883-6250
(505) 884-3424 (FAX)
pdomenici@domenicilaw.com

OPPONENTS
Controlled Recovery Inc.

OPPONENTS' ATTORNEY
Michael H. Feldewert
Holland & Hart LLP
P.O. Box 2208 Santa Fe, NM 87504-2208
(505) 988-4421
(505) 983-6043 (FAX)
mfeldewert@hollandhart.com

OTHER INTERESTED PARTIES
New Mexico Citizens for Clean Air & Water, Inc.

ATTORNEY
pro se.
Donald Neeper. Ph.D.
2708 B. Walnut St.
Los Alamos, NM 87544-2050
(505) 662-4592

Oil Conservation Division

Gail MacQuesten
Oil Conservation Division
Energy, Minerals and Natural Resources Department
1220 S. St. Francis Drive
Santa Fe, NM 87505
(505) 476-3451
(505) 476-3462 (FAX)
gmacquesten@state.nm.us

OIL CONSERVATION DIVISION'S STATEMENT OF THE CASE

Gandy Marley Inc. has applied to modify its existing surface waste management facility permit to allow the facility to accept oilfield waste, exempt from RCRA Subtitle C, including chloride impacted debris, drilling

mud, soils, sludges, tank bottoms and filters associated with the drilling, operating and maintenance of oil and gas wells and related operations of the oil and gas industry, and certain non-exempt, non-hazardous oilfield waste.

The Oil Conservation Division will not be presenting a case in chief, but will present rebuttal evidence if needed.

OIL CONSERVATION DIVISION'S PROPOSED EVIDENCE

WITNESS:	ESTIMATED TIME:	EXHIBITS:
Ed Martin, OCD Environmental Bureau	Unknown	Unknown

PROCEDURAL MATTERS

None.

Respectfully submitted,

Gail MacQuesten
Oil Conservation Division
Energy, Minerals and Natural
Resources Department
1220 S. St. Francis Drive
Santa Fe, NM 87505
(505) 476-3451

Attorney for the Oil Conservation Division

This 13th day of May, 2005.

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing pleading was served by facsimile upon Pete V. Domenici, Jr. (505 884-3424) and Michael H. Feldewert (505 983-6043), and by first class mail, postage pre-paid to Donald Neeper, Ph.D., 2708 B. Walnut St., Los Alamos, NM 87544-2050, this 13th day of May, 2005.

Gail MacQuesten

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

APPLICATION OF GANDY MARLEY, INC. TO MODIFY THEIR EXISTING NMOCD RULE 711 PERMIT No. NM-01019 SO THAT THEY MAY ACCEPT SALT-CONTAMINATED OILFIELD WASTES.

CASE NO. 13480

CRI's PRE-HEARING STATEMENT

This pre-hearing statement is submitted by Holland & Hart LLP on behalf of Controlled Recovery Inc. ("CRI").

APPEARANCES

INTERESTED PARTY

Controlled Recovery Inc.
Post Office Box 388
Hobbs, New Mexico 88241-0388

ATTORNEY

William F. Carr
Michael H. Feldewert
Holland & Hart LLP
P.O. Box 2208
Santa Fe, NM 87504
505-988-4421

2005 MAY 13 PM 1 49

CRI's STATEMENT OF THE CASE

CRI and other properly permitted facilities are available in southeast New Mexico to accept salt contaminated oilfield wastes. In contrast, Gandy Marley's land farming operations are not suitable for disposal of salt contaminated wastes. CRI believes Gandy Marely's application fails to demonstrate that its proposed site and storage methods are suitable to accept salt contaminated oilfield wastes, and that disposal of these wastes at the proposed site may pose a threat to the public health and environment, including groundwater.

CRI will also present evidence demonstrating that the information and procedures utilized by the Division to evaluate these types of applications are inadequate, and should instead

follow the rigorous analysis utilized by the New Mexico Environment Department for similar facilities. Under these more rigorous standards, Gandy Marley's application would not be sufficient to obtain a discharge permit.

CRI's PROPOSED EVIDENCE

WITNESSES	ESTIMATED TIME	EXHIBITS
Ken Marsh, President of CRI	Approx. 20 Minutes	Approx. 5
Mark Turnbough, Regulatory & Environmental Compliance Specialist	Approx. 1 hour	Approx. 5
Jim Bonner, Registered Professional Geologist	Approx. 30 minutes	Approx. 3
Keith Gordon, Registered Professional Engineer	Approx. 30 minutes	Approx. 6

PROCEDURAL MATTERS

CRI is not aware of any procedural matters at this time.

Respectfully submitted,

Holland & Hart LLP

William F. Carr
Michael H. Feldewert
Post Office Box 2208
Santa Fe, New Mexico 87504-2208
(505) 988.4421

Attorneys for Controlled Recovery Inc.

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONVERSATION DIVISION

APPLICATION OF GANDY MARLEY, INC.
TO MODIFY THEIR EXISTING NMOCD
RULE 711 PERMIT NO. NM-01-019 **CASE NO. 13480**

PRE-HEARING STATEMENT

COMES NOW Gandy Marley Inc., by and through undersigned counsel of record, and submit the following Pre-Hearing Statement in the above-captioned matter

I. Name of the Party and Party's Attorney

Gandy Marley, Inc.
Operator of Record
PO Box 1658
Roswell, NM 88203

Pete V. Domenici, Jr., Esq.
Attorney for Gandy Marley Inc.
Domenici Law Firm, P.C.
6100 Seagull Street NE, Suite 205
Albuquerque, NM 87109
(505) 883-6250
Fax 884-3424

II. GANDY MARLEY INC.'S STATEMENT OF THE CASE

Gandy Marley Inc. (GMI) is the operator of record and surface owner of a commercial landfarm located in Sections 4, 5, 8, and 9, Township 11 South, Range 31 East, in Chaves County, New Mexico. This landfarm is permitted pursuant to 19.15.9.711 NMAC (§711) under permit number NM-01-0019. GMI has requested that its landfarm permit be modified to allow it to use landfill-type cells for the disposal of oilfield waste classified as non-hazardous by RCRA Subtitle C exemption or by characteristic testing including petroleum and chloride impacted

debris, mud, soils, sludges, tankbottoms and filters associated with the drilling, operating and maintenance of oil and gas wells and related operations of the oil and gas industry.

Pursuant to §711.B(7), a permit may be issued "upon a finding that an acceptable application has been filed" and that the provisions for public notice and financial assurance have been met. GMI will present evidence that each of the requirements for the issuance of a permit modification have been met. GMI will also be prepared to offer testimony on the implementation of additional or modified requirements that may be imposed by the Oil Conservation Division (the Division). Based on the evidence presented, GMI requests that the permit modification be granted.

A. Procedural History

On March 4, 2005, Division Director Mark Fesmire notified GMI that the Division had determined that it was necessary to modify GMI's landfarm permit to add the following conditions: "Effective immediately, the NMOCD permitted landfarm...is prohibited from accepting oilfield waste contaminated with salts." (Order of the Division, Case No. 13454, Order NO. 12306-A, ¶9.g). The modification was based on the Division's determination that, because salt contamination decreases the biodegradation capacity of the landfarms and that salts leach more easily than hydrocarbons, a landfarm accepting salt-contaminated oilfield waste could pose a threat to groundwater. (*Id.* at ¶9.e). The March 4, 2005 letter stated that for a landfarm to accept salts, the operator was required to apply for a modification of the permit pursuant to §711(B)(1) and follow the notice requirements of §711(B)(2). (*Id.* at ¶9.g).

Following receipt of the March 4, 2004 letter, GMI submitted a permit modification application. By letter dated March 29, 2005, the Division requested additional information from GMI. On April 8, 2005, GMI submitted a revised Application for Waste Management Facility

and a hearing was set for May 19, 2005. The hearing date was subsequently changed to May 23, 2005.

On March 10, 2005, GMI applied for an emergency order allowing it to accept salt-contaminated oilfield waste pending a decision on its application for a permit modification. By Emergency Order R-12306, issued March 11, 2005, the Division granted GMI temporary authorization to accept salt contaminated oilfield waste pending a decision on the requested permit modification. The Emergency Order expired on March 26, 2005. A hearing was held on March 25, 2005 and, following the hearing, the Division issued Order No. 12306-A, extending the Emergency Order R-12306 to allow GMI to continue to operate under its current permit without being subject to the Division's March 4, 2005 letter until a determination is made by the Division on GMI's permit modification request.

B. Public Notice

Testimony will be offered demonstrating that public notice has been given as required by §711(B)(2). The Division gave notice of the May 19, 2005 hearing to GMI and other interested parties. Notice of the hearing was published in the Roswell Daily Record on April 15, 2005 and in the Lovington Daily Leader on April 14, 2005. GMI provided notice to the Chaves County Board of Commissioners, the New Mexico Commissioner of Public Lands and the United States Bureau of Land Management on April 25, 2005 and provided a correction of public notice to the same entities on May 6, 2005.

C. Financial Assurance

Testimony offered concerning financial assurance will show that, as required by Permit NM-01-0019, GMI has provided financial assurance in the form of a cash bond in the amount of $82,917.00 for closure of the existing landfarm. The current financial assurance is the estimated

cost of closure of the facility excluding the landfill within the current landfarm boundaries. GMI will present testimony on the estimated costs of the proposed closure of the landfill. The current bond and any required increases will be based on a third party estimate of closure costs.

D. GMI has submitted an acceptable permit modification application

Mr. Patrick Corser and Mr. William Mansker will testify that GMI's request for a permit modification, as presented in the Application for Waste Management Facility (the Application) and supplemented by this Pre-hearing Statement, submittals and exhibits, and the testimony to be presented at the hearing in this matter, meets the requirements of §711(B)(1) and is consistent with the OCD "Guidelines for Permit Application, Design, and Construction of Surface Waste Management (Revised 7-97)." Mr. Corser's and Mr. Mansker's testimony will be based on the applicable OCD regulations and guidance, a review of OCD files for other permitted surface waste management facilities and the information submitted by GMI in support of the permit modification request.

Mr. Robert W. (Bill) Marley and Mr. Larry Gandy will testify that, as required by §711(B)(1), GMI filed Form C-137. The Application provided the name and address of the applicant and the name and address of the surface owners of the real property on which the facility is sited. As stated in the Application, the land immediately adjacent to the facility is owned by Bill Marley. As indicated on Exhibit 1, attached hereto, the United States owns land in Section 35 and the State of New Mexico owns land in Section 31, both of which are within a mile of the facility. As stated above, both the United States and the State of New Mexico have been provided notice of these proceedings. A plat and topographic map showing the location of the facility is attached to the Application. GMI has met the requirements of §711(B)(1)(a), (b) and (c).

Mr. Marley and Mr. Gandy will offer testimony concerning the description and operation of the facility. The landfarm was originally permitted in January, 1995, and has been in operation for over ten years. Mr. Marley and Mr. Gandy are familiar with the operation and operating history of the landfarm. In addition to the maps attached to the Application, Exhibit 2, attached hereto, provides additional information about the facility, including the location of roads, fences, boundaries, berms, the proposed cells, and buildings. The current location of facility boundaries, buffer zone, exterior berms, cattlegaurds, office and shop will not change and are shown on the attached diagram. There are no pipelines crossing the facility. The only pipeline near the facility is a water line used for livestock that runs along the southern edge of the landfarm. The pipeline is 1 1/4" in diameter and is owned by Mr. Bill Marley and located on property owned by Mr. Marley. There are no chemical storage areas and no on-site storage/disposal facilities for wastes other than those that will be placed in the disposal cells. The stabilization and tank area, approved by OCD on June 14, 1996, is used for the stabilization and absorption of liquids and sludges and will not be changed.

Mr. Corser will offer technical testimony on the proposed construction and installation of the landfill disposal cells. The facility currently operates as a commercial landfarm. GMI is requesting permission to use the existing cells for landfill disposal operations. Portions of the facility may still be used as a landfarm and, in those areas, waste will continue to be landfarmed in compliance with the current permit requirements. No salt contaminated waste will be landfarmed. The requested permit modification would allow the disposal of oilfield waste including petroleum and chloride impacted debris, mud, soil, sludges, tankbottoms and filters associated with the drilling, operations and maintenance of oil and gas wells and related operations of the oil and gas industry.

The landfill cells will be constructed in the same location as existing, remediated landfarm cells. The first landfill cell will be located in Cell 15, shown on Exhibit 2. Additional cells will be used as needed. A diagram of the cell design, a soil report, and a permeability report for the proposed clay liner are attached to the Application. As stated in the Application, the cells will be constructed of a berm no more than 10 feet and no less than 5 feet in height and no less than 8 feet in width at the top with a caliche cap to prevent wind and rain erosion. A minimum one foot clay liner will be installed on the inside of each cell with a 3 to 1 slope on the sidewalls. The clay liner will be compacted to a dry density and moisture content that would achieve a permeability equal to or less than 1×10^{-7} cm/sec. at the time of installation. One foot of remediated soil from the landfarm cells or clean soil from excavation will be placed on top of the clay liner to protect the integrity of the clay liner. Finished grade will be no more than 20 feet below ground level. Debris that may blow will be placed below ground level and, by the end of each workday, will be covered with sufficient soil to prevent blowing.

Solids, semi-solids and sludges, after stabilization, will be disposed of in landfill cells. Solids will be stacked starting at the back of each cell to the finish grade of waste prior to covering. Semi-solids and sludges will be stabilized by mixing with remediated or excavated soils prior to placement in a cell and will be stacked to the same levels as solids. As a cell fills at one end, 2 feet of soil will be placed on top with a slight slope to prevent pooling of rainwater, but not steep enough to promote erosion and will be seeded.

GMI has completed two test wells that may be used for monitoring wells. Testimony will be offered as to the location and construction of the wells. The monitoring wells will be sampled and analyzed quarterly if sufficient water is available.

The testimony to be offered by Mr. Marley, Mr. Gandy and Mr. Corser will show that the Application, as supplemented by this Pre-hearing statement and testimony to be offered at the hearing, provides a description of the facility and technical data on the design elements of the proposed landfill cells, as required by §711(B)(1)(d).

Testimony will be offered demonstrating that, as required by §711(B)(1)(e), the current permit contains a plan for management of approved waste. Except for the changes identified above, general facility management practices will remain unchanged.

Testimony will be offered demonstrating that the Application contains a contingency plan for spill/leak prevention and reporting, as required by §711(B)(1)(f). The proposed contingency plan is the same as in the existing permit. No free liquids will be disposed of in the landfill cells. Storm water that ponds will be removed within 72 hours and stored in tanks or spread on unsaturated areas of the landfill cells. Berms will be of an adequate size and construction to prevent storm water from entering the landfill cells. Equipment and machinery that could be used in the event of storm water runoff will be at the facility at all times. OCD will be immediately notified of any leak or spill, in accordance with OCD Rule 116.

The inspection, maintenance and reporting requirements set forth in the Application are the same as those in the current permit and meet the requirements of §711(B)(1)(g).

The Application includes an H2S contingency plan, as required by §711(B)(1)(h). Testimony will be presented demonstrating that the proposed H2S contingency plan meets the requirements of OCD Rule 118.

Mr. Corser will offer testimony concerning the facility closure plan. The current permit includes a facility closure plan. The Application includes additional closure requirements for the

landfill cells. Each landfill cell will be closed as it is filled. The proposed closure plan meets the requirements of §711(B)(1)(i).

Mr. Mansker and Mr. Corser will offer testimony concerning the geological and hydrological conditions at the facility. The Application includes geological/hydrological information, as required by §711(B)(1)(j). In the March 25, 2005 Order, the Division found that the records of the Division confirmed GMI's description of the geological/hydrological conditions at the facility. (Order of the Division, Case No. 13454, Order NO. 12306-A, ¶9.k). The Division concluded that "[p]reliminary evidence indicates that the hydrological and geologic characteristics associated with the Gandy Marley...disposal site[] are sufficient to prevent water contamination and to protect human health and the environment." (*Id.* at ¶11).

Evidence to be presented at the hearing will include geological and hydrological studies, data and reports submitted to the New Mexico Environment Department as part of the RCRA permit hearing for the Triassic Park facility, which is located in close proximity to the GMI landfarm. The studies, data and reports were reviewed by NMED and the Hearing Officer as part of the Triassic Park hearing. A permit was issued by NMED for Triassic Park and GMI may present portions of the administrative record and the permit as evidence at the hearing in this matter.

The geological and hydrological testimony and evidence will show that the proposed landfill operations will be protective of groundwater and that the disposal of oilfield waste at the facility will not adversely impact fresh water, as required by §711(B)(1)(j).

As set forth above, the notice requirements of §711 have been met, as required by §711(B)(1)(k). Form C-137 includes the certification that the information is true, accurate and complete to the best of GMI's knowledge, as required by §711(B)(1)(l).

GMI will also show that the facility will be beneficial to the industry and will present testimony on the need for the proposed landfill facility.

III. WITNESSES TO TESTIFY AT THE HEARING

GMI will or may call the following witnesses to testify at the hearing in this matter:

1. William L. Mansker, Ph.D. (Curriculum Vitae attached)
2. Patrick Corser, P.E. (Curriculum Vitae will be provided)
3. Robert W. (Bill) Marley, GMI
4. Larry Gandy, GMI
5. Ed Martin, Oil Conservation Division

IV. APPROXIMATE TIME NEEDED TO PRESENT GANDY MARLEY INC.'S CASE

GMI will need approximately four (4) hours to present its case.

V. PROCEDURAL MATTERS TO BE RESOLVED PRIOR TO THE HEARING

None at this time.

Respectfully Submitted,

Pete V. Domenici, Jr. Esq.
Attorney for Gandy Marley Inc.
6100 Seagull Street NE, Suite 205
Albuquerque, NM 87109
(505) 883-6250

I hereby certify that a true and correct copy of the foregoing was sent via facsimile and U.S. mail to parties of record 5/13/05

Pete V. Domenici, Jr., Esq.

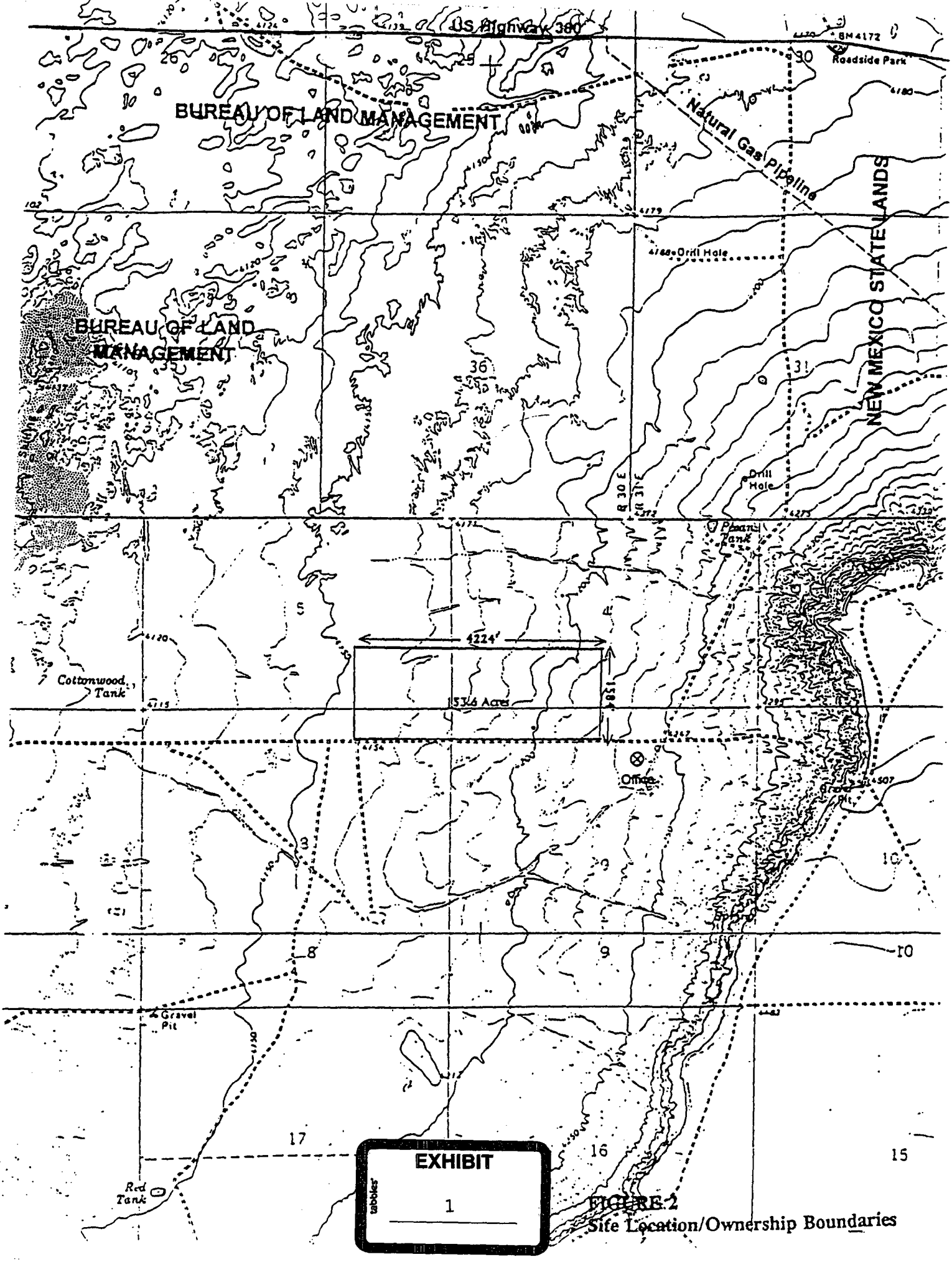
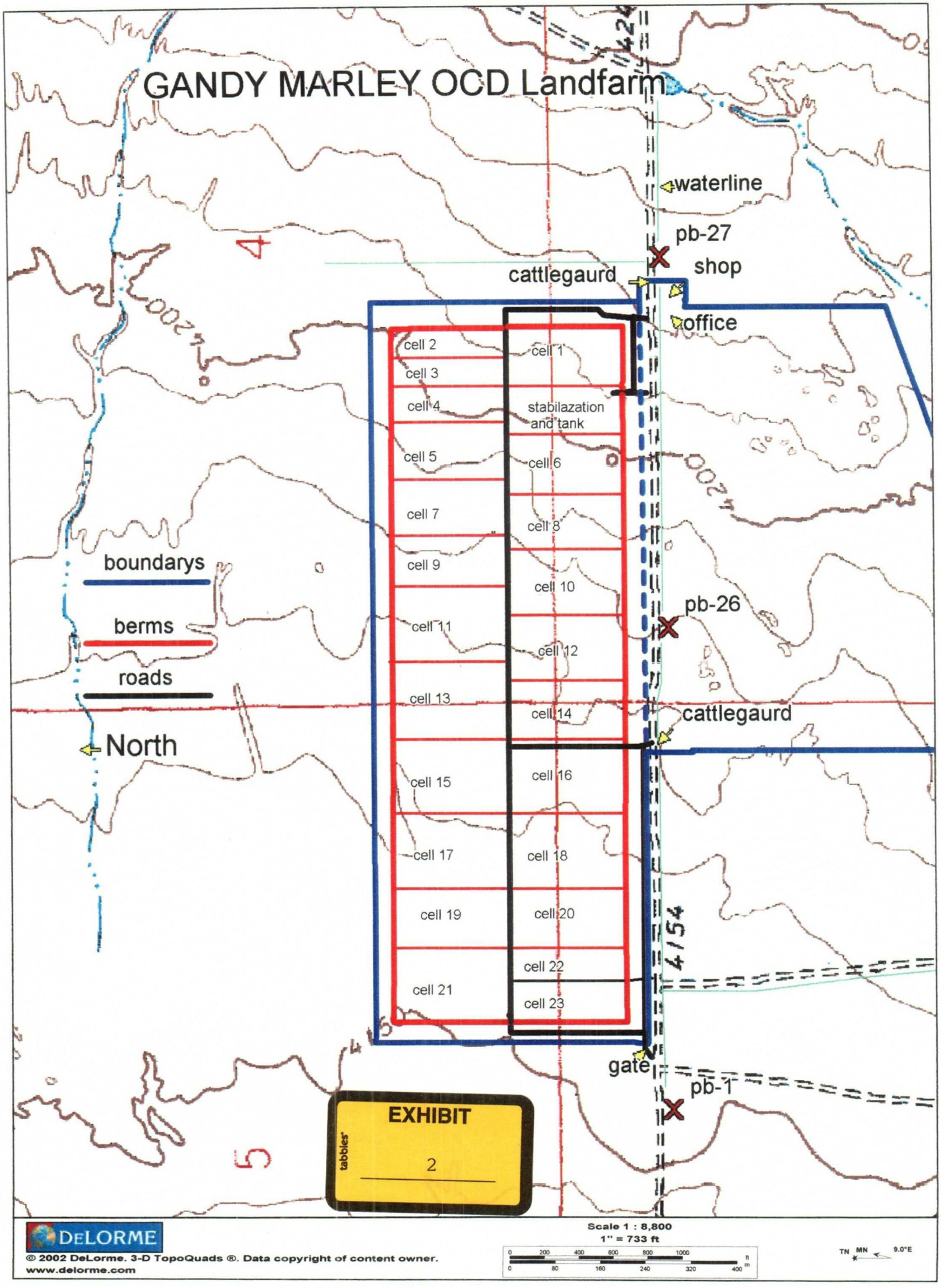


FIGURE 2
Site Location/Ownership Boundaries


GANDY MARLEY OCD Landfarm
waterline
pb-27
shop
cattlegaurd
office
cell 1
cell 2
cell 3
cell 4
stabilazation and tank
cell 5
cell 6
cell 7
cell 8
cell 9
cell 10
cell 11
cell 12
cell 13
cell 14
cell 15
cell 16
cell 17
cell 18
cell 19
cell 20
cell 21
cell 22
cell 23
boundarys
berms
roads
North
pb-26
cattlegaurd
gate
pb-1
EXHIBIT
2
tabbies
DeLORME
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www.delorme.com
Scale 1 : 8,800
1" = 733 ft

CURRICULUM VITAE
William L. Mansker, Ph.D.

Summary

Bill Mansker was born on December 11, 1944 in Tulsa, Oklahoma; the second of 7 children. He was raised through high school in a rural setting and contributed to the livelihood of the Mansker family farm in south central Missouri. At Plato High School, he was active in basketball and baseball and focused his academic interests in the sciences. Upon graduating third in his senior class, he received a University of Missouri Curators' Scholarship to attend the University of Missouri (UMC-Columbia).

After graduating (B.S. Geology) in 1968, he entered the University of Missouri Master's program. He enlisted in the U.S. Army in January 1969. Upon completing his 2 year enlistment he was honorably discharged, having achieved a Specialist 5th Class rank (MOS: 12B30 Combat Demolition Specialist) in an overseas Engineering Unit. He then resumed the UMC Master's program. He earned an M.A. in Geology in 1973 upon completing a field/microprobe research thesis studying the petrology of a kimberlite occurrence in southeast Missouri.

In September 1973 he entered the Ph.D. Program of the Geology Department, University of New Mexico and was a Research Assistant in the Institute of Meteoritics. He accepted an Assistant Professor position at Clemson University (SC) in 1979 while completing preparation of his UNM dissertation. He completed his dissertation on the petrology of late-stage Hawaiian volcanics and received his Doctorate from UNM in December 1979. In 1980 he returned to Albuquerque and taught in a part-time capacity in the UNM Geology Department. In 1981 he was offered a project geologist position with a major mining company.

During the period 1981-84 he conducted exploration for kimberlites in the U.S. and pursued research on kimberlite mineralogy. In 1984 he established INEX (INnovative EXplorations) as an independent contract geologist in Albuquerque and he conducted various applied geology and exploration related research activities through 1989. He also focused on environmental geology and hydrology and worked with two environmental consulting firms through 1992. Since March 1993 he has worked as an independent geologist providing technical and management services for environmental projects and research support for diamond exploration efforts in the U.S. and Canada.

He maintains active participation in the academic and applied geologic community through public educational interactions, research endeavors, scientific publications, and continued professional development.

Career Development

University of Missouri; Columbia, Mo. 1963-1973

Undergraduate B.S. degree (Geology) conferred in August 1968.
Graduate M.A. degree (Geology) conferred in May 1973 upon completion of graduate studies and a field mapping and microprobe research Master's thesis entitled "Petrology of a Southeast Missouri Ultramafic Pipe". Thesis advisor: Dr. Glen R. Himmelberg.

Lab instructor for graduate ore deposits petrology course. As a Graduate Teaching Assistant, received the UMC Outstanding Teaching Award.

University of New Mexico; Albuquerque, NM. 1973-1979

Graduate Ph. D. degree (Geology) conferred 1979

Presented UMC master's thesis work at the 1973 GSA National Meeting (Dallas,TX). Research Assistant with Institute of Meteoritics (IOM, Dr. Klaus Keil). Conducted research on kimberlites with Dr. Douglas Brookins; meteorites, returned lunar samples, and Hawaiian volcanics with Dr. Klaus Keil, IOM staff, and University of Hawaii staff. Presented kimberlite research with at 1976 AGU meeting (Ann Arbor, MI); melilite nephelinite (Hawaiian volcanics) pre-dissertation research at 1976 RM Regional GSA meeting (Albuquerque, NM). As president of Beta Chapter, SGE assisted in establishing the Jemez Mountains Volcanic Rock Suite and the Rodney C. Rhodes Memorial Scholarship Fund. Co-authored IOM Special Publications and published in American Mineralogist, Proceedings 9th Lunar Science Conference. Performed departmental and IOM technical photography. Dissertation advisor Dr. Klaus Keil

Clemson University; Clemson, SC. 1979-1980

Assistant Professor, Geology, Mineralogy, and Geochemistry

Taught introductory geology, oceanography, petrology, mineralogy, geochemistry, and supervised student research. Completed UNM doctoral dissertation entitled Petrogenesis of Pukele Valley Olivine Melilite Nephelinites" (Dissertation advisor: Dr. Klaus Keil). Conducted funded research on regional ultramafics as the source of diamond occurrences in the southeastern United States.

University of New Mexico; Albuquerque, NM 1980-1981

Departmental Instructor, Geology and Oceanography.

Conducted petrologic and microprobe research (with Drs. Klaus Keil and Allen Lapin (SNL) of the Belted Range Tuff (Yucca Mountain, Nevada) as a potential high level radioactive waste repository. Conducted kimberlite and radon/radionuclide research with Dr. Douglas Brookins.

Cominco American Resources International, Spokane, WA 1981-1984
Project Geologist

Proposed and implemented exploration budgets in the range $50,000 - $250,000 and managed successful exploration programs for kimberlites and diamonds, precious metals, and base metals throughout the U.S. Applied various exploration techniques to include airborne and ground-based geophysics, LANDSAT, NHAP, low altitude IR photography, and alluvial heavy mineral indicator and geochemical sampling. Developed innovative exploration and geochemical sampling equipment. Discovered the first two diamonds to be found in Kansas kimberlites. Conducted public and professional presentations on kimberlites and mantle petrology. Published (with UNM/SNL co-authors) a report on the Yucca Mountain, NV research conducted at UNM. Conducted part-time (Cominco-funded) microprobe research at UNM on kimberlite mineral chemistry.

INEX (Innovative Explorations), Albuquerque, NM (1984-1989)

Geologic and Environmental Consultant

Managed projects involving radionuclide subsurface migration and modeling in oil field and hydrothermal environments. Conducted contract kimberlite/diamond exploration and research. Provided precious metals (epithermal gold), rare earths, and industrial minerals (garnets/zeolites) exploration support services. Collaborated with UNM (Dr. Douglas Brookins) in research regarding geologic sources for radon and related radionuclide migration modeling. Published abstracts and several refereed papers concerning kimberlite occurrences, kimberlitic garnet mineral chemistry, geologic causes of radionuclide anomalies, and potential environmental risk in abandoned mining areas. Developed an innovative optical mineralogic technique to qualitatively determine garnet primary sources in the field. Collaborated with Los Alamos National Laboratory in a field and microprobe study of diamond potential in Navajo kimberlites. Accumulated over 7,500 pounds of U.S. kimberlite samples and kimberlite/lamproite mineral concentrates and donated as research collections to the Smithsonian Institution and American Museum of Natural History.

Performed Preliminary Assessments/Site Inspections (PA/SI) and Hazard Ranking System (HRS) scoring (CERCLA). Designed and implemented site Worker Health and Safety Plans (WHSP), Site Characterization Sampling Plans, and Quality Assurance Project Plans. Performed property audits, resource evaluations, and environmental assessments for property lease submittals. Assisted the State of New Mexico (NMED) and US EPA in a state-wide residential radon survey. Developed innovative equipment designs for contaminated groundwater and soil reclamation.

Geoscience Consultants, Ltd., Albuquerque, NM. 1989-1991

Senior Program Manager

Designed and managed Remedial Investigation (RI) tasks, involving soil-vapor geochemical surveys, soil borings and monitor well installations related to environmental projects. Prepared Quality Assurance Project Plans (QAPjPs) and performed quality assurance/data validation (QA/QC) reporting. Managed a proprietary PCB litigation investigation for Sandia National laboratories. Defined project scopes and developed work plans and cost estimates for projects involving:

NPDES storm water permits, spill prevention contingency plans, groundwater discharge plans, mining permits, environmental assessments and environmental impact statements (NEPA), waste minimization, solid waste disposal siting, environmental site audits and assessments, hazard ranking system (HRS), mercury meter contamination, and above-ground and underground storage tanks (USTs). Contributed to corporate strategic planning, business development proposal generation for private and governmental sectors. Published (in NMGS, with co-authors) a paper concerning environmental risk in mining areas.

Western Technologies Inc., Albuquerque, NM 1991-1993

Director of Environmental Services

Responsible for the operational performance, technical direction, and profitability of the environmental and geotechnical departments for the Albuquerque division. Served as project director and principal-in-charge for major UST and hazardous waste characterization and remediation projects. Performed QA/QC functions for client deliverables and interfaced with clients and regulatory agencies. Managed immediate response and abatement projects involving surface hydrocarbon spills. Prepared closure and post-closure monitoring plans for solid waste (non-hazardous landfill) facilities. Developed investigation and reclamation plans for numerous UST sites in accordance with NMED-USTB, NM Groundwater Protection Act (GWPA), and US EPA RCRA regulations. Provided technical input to NMED and NM Oil Conservation Division (NMOCD) for development of contractor proficiency/evaluation criteria (NMED) and O&G production pit investigations, reclamation, and closure guidelines (NMOCD). Conducted Federal NEPA Environmental Assessments and UST Site Investigations and developed and implemented Corrective Action plans for projects on the Navajo Nation. Prepared site Health and Safety Plans (HASPs) for hazardous waste and mixed-waste projects. Developed innovative drilling, sampling, and field analytical techniques for rapid evaluation of soils and groundwater contamination.

Consultant, Albuquerque, NM 1993 Current

Proprietor, INnovative Explorations

Provides contract geologic, hydrogeologic, and hydrogeochemical management and expert services for hazardous waste, solid waste, underground storage tank and radon mitigation projects in New Mexico; and provides program design and technical project support for various kimberlite/diamond projects in the U.S. and Canada. Presents workshops in kimberlite geology and diamond exploration methodologies. Is currently conducting research for publication concerning the Archean and Proterozic evolution of North America based on subcrustal mantle petrology and kimberlite mineral chemistry, and is preparing (for publication) a layman's

kimberlite/diamond prospecting guide.

Current and Past Professional Affiliations

Sigma Gamma Epsilon (National Earth Science Honorary) (Past President)
Mineralogical Society of America
American Association of Radon Scientists and Technologists
Albuquerque Geological Society (Past Treasurer, Secretary, Vice President, President)
Northwest Mining Association
Prospectors and Developers Association (Canada)
New Mexico Hazardous Waste Management Society
New Mexico Microbeam Users Group

Publications

MANSKER, W.L., 1973, Petrology of a southeast Missouri kimberlite (Abstract) Proc. Geol. Soc. Amer. Annual Meeting, Dallas, Texas

MANSKER, W.L., K. Keil J. Husler and G. Bauer, 1976, Petrologic investigation of the Pukele Valley olivine-melilite nephelinite (Abstract), Proc. Geol. Soc. Amer. Regional Meeting (Rocky Mountain), Albuquerque, New Mexico

MANSKER, W.L., D. Brookins, G. Landis and J. Husler, 1976, Post -Devonian diatremes in southeast Missouri; Investigation of the Avon kimberlite and some emplacement parameters (Abstract EOS, Vol. 57, No. 10, p. 761.

Warner, R.D. R. Warren, W. MANSKER, J. Berkley and K. Keil, 1976, Electron microprobe analyses of olivine, pyroxene and plagioclase from Apollo 17 rake sample mare basalts, Spec., Publ. No. 15, UNM Institute of Meteroritics, 158 p.

Warner, R.D., J. Berkley, W. MANSKER, R. Warren and K. Keil, 1976, Electron microprobe analyses of spinel, Fe-Ti oxides and metal from Apollo 17 rake sample mare basalts, Spec. Publ. No. 16, UNM Institute of Meteoritics, 114 p.

Warner, R.D., J. Taylor W. MANSKER and K. Keil, 1978, Clast assemblages of possible deep-seated (77517) and immiscible-melt (77539) origins in Apollo 17 breccias, Proc. 9th Lunar Sci Conf.

MANSKER, W.L. R. Ewing and K. Keil, 1979, Barium-titanium biotites in nephelinites from Oahu, Hawaii, Amer. Mineral, Vol. 64, Nos. 1 and 2, p. 156-159

MANSKER, W.L., K. Keil and G. Bauer, 1979, Xenolith disaggregation and nephelinite petrochemistry in the Honolulu Volcanic Series, Oahu, Hawaii (Abstract), Hawaiian Symposium on Intraplate Volcanism and Submarine Volcanism, Hilo, Hawaii.

Connolly, J.R., W. MANSKER, R. Hicks, C. Allen, J. Husler, K. Keil and A. Lapin, 1983, Petrology and geochemistry of the Grouse Canyon Member of the Belted Range Tuff, Rock-mechanics drift, U12g Tunnel, Nevada Test Site, Sandia National Laboratories, Sandia Report SAND81-1970-UC70, p.72

Berendsen, P., R. Cullers and W. MANSKER, 1985, Late-Cretaceous kimberlite and lamproite intrusions of Kansas (Abstract), Proc. Geol, Soc. Amer. Regional Meeting (south-central), Fayetteville, Arkansas

MANSKER W.L., B. Richards, and G. Cole, 1985, A note on newly -discovered kimberlites in Kansas (Abstract), Symposium on Alkalic and Related Rocks, Proc. Geol. Soc. Amer. Regional Meeting(south-central), Fayetteville, Arkansas and Geol. Soc. Amer. Sec. Paper No. 215

Springfield, J.T., W. MANSKER and K. Keil, 1985, Factors affecting garnet metamerism -applications in kimberlite evaluation/exploration (Abstract) Proc. Geol. Soc. Amer. Regional Meeting (south-central), Fayetteville, Arkansas

Brookins, D.G. and W. MANSKER, 1985, Upper mantle and crustal rocks in north-central Kansas; Evidence from kimberlites (Abstract), 6th International Conference on Basement Tectonics, Vol. 6, International Basement Tectonics Association, Santa Fe, New Mexico

MANSKER, W.L., J. Springfield and K. Keil, 1986, Kimberlitic garnets: Metamerism related to composition in Microbeam Analysis - 1986, Proceedings of the 21st Annual Conference of the Microbeam Analysis Society, A.D. Romig and W.F. Chambers, eds., San Francisco Press, Inc., p. 670-673

MANSKER, W.L., 1986 Garnet suites in U.S. kimberlites and lamproites in Microbeam Analysis -- 1986, Proceedings of the 21st Annual Conference of the Microbeam Analysis Society, A.D. Romig and W.F. Chambers, eds., San Francisco Press, Inc. p. 669

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MANSKER, W.L., 1987, Radionuclide anomalies in geologic exploration (Abstract, Poster Session and panel participant), Geologic Causes of Radionuclide Anomalies (GEORAD) Conference, Mo. Dept. of NaturalResources and U.S. Geological Survey, St. Louis, Mo.

MANSKER, W.L. and D.G. Brookins, 1989, Geologic factors

affecting radionuclide disequilibrium in alpha-gamma measurements (Abstract), Second Annual Hazardous Waste Management Conference and Exhibition, Albuquerque, New Mexico

MANSKER, W.L., 1989, Applied radon geochemistry in oil and gas exploration (Abstract and Poster Session), AAPG-SEPM-EMD Rocky Mountain Section Meeting, Albuquerque, New Mexico

Rogers, M.A., W.L. MANSKER, and D.W. Peters, 1991, Potential environmental threats in old mining areas - the High Rolls (Sacramento) Mining District, 1991 New Mexico Geological Society Guidebook

MANSKER, W. L., D. Cortese, and B. Hovda, 1995, Ex-situ air sparging and bioenhanced remediation of gasoline-contaminated ground water, (Abstract), New Mexico Environment Department Bioremediation Conference, June 22-23, 1995, Santa Fe, New Mexico

Patents

Mansker, W. L., November 12, 1985, Sample Concentrating Cable Jig, 7 Claims, 6 Drawing Figures, United States Patent No. 4,553,654.

Mansker, W. L., September 21, 1989, Sample Concentrating Cable Jig, Canadian Patent No. 1,250,253.

Certifications

OSHA 40-hr Hazardous Waste Training (current annual refresher)
OSHA 8-hr Supervisor's Training
OSHA 8-hr Excavation Supervisor's Training
New Mexico Certified Scientist No. 067

Court Testimony (Expert Witness)

1990 (Expert witness for Sandia National Laboratories)
Pagano Salvage vs Sandia National Laboratories (Client)
Court No. VA 87-287
13th Judicial Court
Valencia Co., NM
Re: Defendant expert witness; PCB contaminated soils, aerial photo interpretation of historic site activities

1995 (Expert witness for Aragon et. Al))
Aragon, et al. (Client) vs Department of the Air Force, ex rel. United States of America
Court No. CIV 94-592 SC/WWD
United States District Court
District of New Mexico
Re: Trichlorethylene (TCE) contaminated soils/ground water; PRP identification; plaintiff expert witness

1995 Expert witness for Biron Bay Resources)
Wm. R. Davis and Thomas N. Fox etux v. Biron Bay Resources, Ltd
(Client)
Court No. CIV 95 0105 B1
United States District Court
District of New Mexico
Re: Regulation of Solid Waste; Solid Waste operations; Site worker health and safety; Defendant expert witness

1995-96 (Expert witness for Challenge Mining Co.)
Challenge Mining Co. (Client) v. US Forest Service. ex rel. United States of America
Court No. CIV 95-0019 BB/LCS
United States District Court
District of New Mexico
Re: USFS trespass and rights; operating plan validity; plaintiff expert witness; environmental compliance

1997-98 (Expert witness for Vantol)
New Mexico Environment Department v. N. Vantol D/B/A Vantol Dairy (Client)
Court No. SF 96-243(C)
First Judicial District Court
State of New Mexico
County of Santa Fe
Re: Environmental compliance; expert witness for defendant; groundwater discharge plan; analytical data validity

1997-98 (Expert witness for Holt)
Holt (Client) v. Amoco Oil Company (Negotiated settlement)
North Cowden Field, Goldsmith, Texas
Re: Oilfield produced fluids contamination; plaintiff expert witness; soil and groundwater contamination; interpretation of aerial photos, reclamation cost estimates

1997-98 (Expert witness for Henderson)
Henderson (Client) v. Shell Oil Company (Negotiated settlement)
TXL Field, Notrees, Texas
Re: Oilfield produced fluids contamination; plaintiff expert witness; define magnitude and extents of subsurface contamination; hydrogeology; interpretation of aerial photos, reclamation cost estimates.

Professional References

Dr. Lee A. Woodward
Dr. Rodney C. Ewing
Mr. John Husler
Department of Earth and Planetary Sciences
University of New Mexico
Albuquerque, New Mexico 87131
(505) 277-4204

Mr. Pete Domenici, Jr. Attorney at Law
Domenici Law Firm, P.C.
5801 Osuna N.E., Suite 205
Albuquerque, New Mexico 87109
(505) 883-6250

Dr. Richard S. Della Valle
Division Chairman
Science, Mathematics & Engineering
Napa Valley College
2277 Napa-Vallejo Highway
Napa, California 94558
(707) 253-3161

Mr. Stan R. Hafenfeld, President
NEVEX Services, Inc.
1813 Shirlane N.E.
Albuquerque, New Mexico 87112
(505) 292-3234

Mr. Dirk Van Hart
GRAM, Inc.
3033 Palo Alto Dr. N.E.
Albuquerque, New Mexico 87112
(505) 293-2073

Mr. Taylor Sharpe (6EN-WG)
Regional Stormwater Enforcement
US EPA, Region 6
1445 Ross Avenue
Dallas, Texas 75202
(214) 665-7112

For Further Information or Additional References, Please Contact:

William L. Mansker, Ph.D.
8704 Gutierrez N.E.
Albuquerque, New Mexico 87111
Ph/Msg: (505) 239-9951 Cell Fax: (505) 292-0805

E-mail: wlminex@nmia.com
Webpage URL: http://www.flash.net/~wlminex/
Webpage Title: Inex#.two